4200UV

Safety Data Sheet

Section 1: Identification

Product Identifier and Other Means of Identification

Product Identifier: 4200UV

Other Means of Identification: UV Curable Conformal Coating

Related Part # 4200UV-945ML, 4200UV-3.78L

Recommended Use and Restriction on Use

Use: UV Curable Conformal Coating

Uses Advised Against: Industrial use only.

Details of Manufacturer or Importer

Manufacturer
MG Chemicals
1210 Corporate Drive
Burlington, Ontario L7L 5R6
CANADA

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FAX +1-800-340-0773
E-MAIL support@mgchemicals.com
WEB www.mgchemicals.com

MG Chemicals (Head Office)
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Surrey, British Columbia V4N 4E7
CANADA

☎ +1-905-331-1396
FAX +1-905-331-2682
E-MAIL info@mgchemicals.com

E-MAIL (Competent Person): sds@mgchemicals.com

Emergency Phone Number

For hazardous material incidents ONLY (leaks, spills, fires, exposures or accidents)
USA or CANADA—Call Verisk 3E at ***+1-866-519-4752*** or ***+1-760-476-3962***
(Service access code: 335388)

For emergencies involving the transport of dangerous goods; 24/7 service
CANADA—Call CANUTEC collect at ***+1-613-996-6666*** or ****666*** on cellular phones

Section 2: Hazard(s) Identification

Classification of Hazardous Chemical

GHS Categories

Criteria		Category	Signal Word	Pictograms
Eye Damage		1	Danger	Corrosion
Sensitization	Skin	1	Warning	Exclamation
Hazardous to the Aquatic Environment	Chronic	1	Warning	Environment
Flammable Liquids		4	Warning	*none*

Note: The degree of severity is ranked within each hazard class from 1 (Highest Severity) to up to 5 (Lowest Severity), which is opposite to HMIS and NFPA conventions. Severity category rankings do not allow comparisons between classes.

Label Elements

Signal Word	**DANGER**
Pictograms	**Hazard Statements**
	H318: Causes serious eye damage
	H317: May cause an allergic skin reaction
	H410: Very toxic to aquatic life with long lasting effects
No symbol	H227: Combustible liquid

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Prevention	Precautionary Statements
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261	Avoid breathing fumes, vapors and spray.
P280	Wear protective gloves and eye protection.
P272	Contaminated work clothing should not be allowed out of the workplace.
P273	Avoid release to the environment.
Response	**Precautionary Statements**
P370 + P378	In case of fire: Use dry chemical, carbon dioxide, chemical foam, or water spray to extinguish.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER or doctor.
P302 + P352	IF ON SKIN: Wash with plenty of water or shower.
P362 + P364	Take off contaminated clothing and wash it before reuse.
P333 + P313	If skin irritation or rash occurs: Get medical advice or attention.
P391	Collect spillage.
Storage	**Precautionary Statements**
P403	Store in a well-ventilated place.
Disposal	**Precautionary Statements**
P501	Dispose of contents in accordance to local, regional, national, and international regulations.

Hazards Not Otherwise Classified

Other Criteria	Hazard Statements/Precautionary Statement	Signal Word	Pictograms
Defats skin	Repeated exposure may cause skin dryness or cracking.	Not applicable	Not applicable

Section 3: Composition/Information on Ingredients

CAS #	Chemical Name	%(weight)
5888-33-5	isobornyl acrylate	52%
Trade secret [a)]	isocyanatoacrylate	31%
3524-68-3	pentaerythritol triacrylate	4%
123-86-4	n-butyl acetate	3%
4986-89-4	pentaerythritol tetraacrylate	2%

a) The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret. Exemption granted under HMIRC Registry Number: 3339191, December Pending.

Section 4: First-Aid Measures

Exposure Condition	*GHS Code/Symptoms/Precautionary Statements*
IF IN EYES	P305 + P351 + P338, P310
Immediate Symptoms	*redness, pain, eye damage, swelling of the eye lids*
Response	Rinse cautiously with water for at least 30 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.
IF ON SKIN	P302 + P352, P362 + P364, P333 + P313
Immediate Symptoms	*redness, irritation, dry skin, allergic contact dermatitis*
Response	Wash with plenty of water or shower. Take off contaminated clothing and wash it before reuse. If skin irritation or rash occurs: Get medical advice or attention.
IF INHALED	P304 + P340, P312
Immediate Symptoms	*cough, sore throat, dizziness, headache, irritation to the respiratory tract*
Response	Remove person to fresh air and keep comfortable for breathing.

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IF SWALLOWED	P301 + P330 + P331
Immediate Symptoms	*nausea, abdominal pain, diarrhoea, vomiting*
Response	Rinse mouth. Do NOT induce vomiting.

Section 5: Fire-Fighting Measures

Extinguishing Media	In case of fire: Use dry chemical, carbon dioxide, chemical foam, or water spray to extinguish.
Specific Hazards	Produces irritating and toxic fumes in fires or in contact with hot surfaces. Produces irritating smoke of unknown toxicity in fires. Prevent fire-fighting wash from entering waterway or sewer system.
Combustion Products	Produces carbon oxides (CO, CO_2) and toxic fumes.
Fire-Fighter	Wear self-contained breathing apparatus and full fire-fighting turn-out gear.

Section 6: Accidental Release Measures

Personal Protection	See personal protection recommendations in Section 8.
Precautions for Response	Avoid breathing fumes, vapors or spray. Remove or keep away all sources of extreme heat or open flames.
Environmental Precautions	Avoid releasing to the environment. Prevent spill from entering drains and waterways.
Containment Methods	Contain with inert and non-flammable absorbent (such as soil, sand, vermiculite).
Cleaning Methods	Collect liquid in a sealable, chemical-resistant container. Sprinkle inert absorbent compound onto spill, then sweep into the container. Wipe off residues with paper towels and place the used towels in the waste container. Use soap and water to remove the last traces of residue.
Disposal Methods	Dispose of spill waste according to Section 13.

Section 7: Handling and Storage

Prevention

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Avoid breathing fumes, vapors or spray. Keep container tightly closed.

Avoid release to the environment.

Handling

Wear protective gloves and eye protection.

Take off contaminated clothing and wash it before reuse. Contaminated work clothing should not be allowed out of the workplace.

Collect spillage.

Storage

Store in a well-ventilated place.

Section 8: Exposure Controls/Personal Protection

Substances with Occupational Exposure Limit Values

Chemical Name	Country	Long Term Exposure Limits (PEL)	Short Term Exposure Limits (STEL)
n-butyl acetate	ACGIH	150 ppm	Not established
	U.S.A. OSHA PEL	150 ppm	Not established
	Canada AB	150 ppm	200 ppm
	Canada BC	20 ppm	200 ppm
	Canada ON	150 ppm	Not established
	Canada QC	150 ppm	200 ppm

Note: The ACGIH[1], OSHA (Table Z-1), and Canadian provinces exposure limits were consulted. Limits from the RTECS database[2] and from suppliers' SDS were also consulted. Short term exposure limits (STEL) are for 15 min and long term permissible exposure limits (PEL) for 8 h.

Engineering Controls

Ventilation

Keep airborne concentrations below the occupational exposure limits (OEL).

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Personal Protective Equipment

Eye protection	Wear appropriate protective eyeglasses or chemical safety goggles. **RECOMMENDATION:** Ensure that glasses have side shields for lateral protection.
Skin Protection	For likely contacts, use of protective butyl rubber or other chemically resistant gloves. For incidental contacts, use nitrile or other chemically resistant gloves. For extended contacts, use polyvinyl alcohol (PVA) or viton gloves and aprons.
Respiratory Protection	For over-exposures up to 10 x OEL of mist, vapors, and spray, wear respirator such as a half-mask respirator with organic vapor cartridges. Above 10 x OEL, use a positive-pressure, air-supplied respirator or a self-contained breathing apparatus. **RECOMMENDATION:** Consult your local safety supply store to ensure that your respirator has a NIOSH (U.S.) approved filter cartridges appropriate for the ingredients listed in Section 3. A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or Canadian Standards Association (CSAQ) Standard Z94.4 must be followed whenever workplace conditions warrant a respirator's use. The respirator should be fitted to the employee by a professional. Ensure vapor cartridges are stored in sealed plastic bags when not being used. **NIOSH RECOMMENDATIONS FOR MDI CONCENTRATIONS IN AIR[3]:** Up to 0.5 mg/m^3: (APF = 10) Any supplied-air respirator Up to 1.25 mg/m^3: (APF = 25) Any supplied-air respirator operated in a continuous-flow mode Up to 2.5 mg/m^3: (APF = 50) Any self-contained breathing apparatus with a full facepiece (APF = 50) Any supplied-air respirator with a full facepiece Up to 75 mg/m^3: (APF = 2 000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode

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General Hygiene Considerations

Wash hands thoroughly with water and soap after handling.

Section 9: Physical and Chemical Properties

Physical State	Liquid	**Lower Flammability Limit** [a)]	1%
Appearance	Amber	**Upper Flammability Limit** [a)]	8%
Odor	Slightly acrylic	**Vapor Pressure @20 °C**	Not available
Odor Threshold	Not available	**Vapor Density**	>1 (Air=1)
pH	Not available	**Relative Density @25 °C**	1.06
Freezing/Melting Point	Not available	**Solubility in Water**	Immiscible
Initial Boiling Point	≥127 °C [≥261 °F]	**Partition Coefficient n-octanol/water**	Not available
Flash Point	68 °C [154 °F]	**Auto-ignition Temperature**	Not available
Evaporation Rate	Not available	**Decomposition Temperature**	Not available
Flammability	Combustible	**Viscosity @25 °C**	>20.5 mm^2/s

a) Based on Raoult's Law and LeChatelier principle.

Section 10: Stability and Reactivity

Reactivity	Not applicable.
Chemical Stability	Chemically stable at normal temperatures and pressures
Conditions to Avoid	Avoid flames, sparks, other ignition sources, direct sunlight and incompatible substances.
Incompatibilities	Strong oxidizing agents, strong acids, alkali, water
Polymerization	Will not occur
Decomposition	Will not decompose under normal conditions. For thermal decomposition, see combustion products in Section 5.

Section 11: Toxicological Information

Summary of Effects and Symptoms by Routes of Exposure

Eyes	May cause redness, pain, irritation, or swelling of the eye lids.
Skin	May cause skin redness, irritation, dry skin, or allergic contact dermatitis.
Inhalation	May cause cough, sore throat, dizziness, headache, irritation to the respiratory tract.
Ingestion	May cause nausea, abdominal pain, diarrhoea or vomiting.
Chronic	Prolonged and repeated exposure may lead to skin sensitization.

Acute Toxicity (Lethal Exposure Concentrations)

Chemical Name	LD50 oral	LD50 dermal	LC50 inhalation
isobornyl acrylate	4 350 mg/kg Rat	Not available	Not available
pentaerythritol triacrylate	Not available	Not available	Not available
n-butyl acetate	10 768 mg/kg Rat	17 600 mg/kg Rat	Not available
pentaerythritol tetraacrylate	>10 000 mg/kg Rat	17 600 mg/kg Rat	>1 820 mg/L Rat

Note: Toxicity data from the RTECS[2] and ECHA were consulted. The data from supplier SDSs' were also consulted.

Other Toxicological Effects

Skin corrosion/irritation	Based on available data, the classification criteria are not met.
Serious eye damage/irritation	Based on available data, the classification criteria are not met.
Sensitization (allergic reactions)	Isobornyl acrylate and isocyanatoacrylate can cause skin sensitization.
Carcinogenicity (risk of cancer)	None of the ingredients are classified or listed as a carcinogen by IARC, ACGIH, CA Prop 65, or NTP.

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Mutagenicity (risk of heritable genetic effects)	Based on available data, the classification criteria are not met.
Reproductive Toxicity (risk to sex functions)	Based on available data, the classification criteria are not met.
Teratogenicity (risk of fetus malformation)	Based on available data, the classification criteria are not met.
STOT-single exposure	Based on available data, the classification criteria are not met.
STOT-repeated exposure	Based on available data, the classification criteria are not met.
Aspiration hazard	There are no category 1 components, and the kinematic viscosity is >20.5 mm^2/s at 40 °C.

Section 12: Ecological Information

Ecological classifications are based on the IMDG/GHS criteria in conjunction with ecotoxicological data from our suppliers, the European Chemical Agency database (http://echa.europa.eu), and other reliable sources.

Isobornyl acrylate is an acute and chronic category 1 environmental toxicant according to GHS criteria.

Based on available data, pentaerythritol triacrylate, n-butyl acetate, and pentaerythritol tetraacrylate are not classified as environmental hazards according to GHS criteria.

Acute Ecotoxicity

See chronic ecotoxicity.

Chronic Ecotoxicity

Category 1

Very toxic to aquatic life with long lasting effect

Avoid release to the environment. Collect spillage.

Biodegradability

Not available

Bioaccumulation

Not available

Other Effects

Not available

Section 13: Disposal Considerations

Dispose of contents in accordance with all local, regional, national, and international regulations.

Section 14: Transport Information

Ground

Refer to TDG regulations (Canadian Transportation of Dangerous Goods regulations); **USA DOT 49 CFR** (Parts 100 to 185) **Regulations.**	
Sizes 5 L and under *4200UV-945ML, 4200UV-3.78L* **Limited Quantity** 	*FOR REFERENCE ONLY* **UN number:** NA1993 **Shipping Name**: COMBUSTIBLE LIQUID (isobornyl acrylate) **Class:** 3 **Packaging Group:** III **Marine Pollutant:** Yes

Air

Refer to ICAO-IATA regulations.	
Sizes 5 L and under *4200UV-945ML, 4200UV-3.78L* **Limited Quantity** 	*FOR REFERENCE ONLY* **UN number:** NA1993 **Shipping Name**: COMBUSTIBLE LIQUID (isobornyl acrylate) **Class:** 3 **Packaging Group:** III **Marine Pollutant:** Yes

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Sea

Refer to IMDG Regulations.	
Sizes 5 L and under *4200UV-945ML, 4200UV-3.78L* **Limited Quantity** 	*FOR REFERENCE ONLY* **UN number:** NA1993 **Shipping Name**: COMBUSTIBLE LIQUID (isobornyl acrylate) **Class:** 3 **Packaging Group:** III **Marine Pollutant:** Yes

Note: **Shipper must be appropriately <u>trained and certified</u> before involvement with the transport of dangerous goods.**

Section 15: Regulatory Information

Canada

Domestic Substance List (DSL) / Non-Domestic Substance Lists (NDSL)

All hazardous ingredients are listed on the DSL.

Hazardous Products Act (R.S.C., 1985, c. H-3)

The safety data sheet and label comply with the Hazardous Product Act and WHMIS 2015.

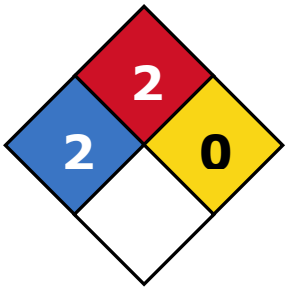
USA

Other Classifications

HMIS® RATING

HEALTH:	*	**2**
FLAMMABILITY:		**2**
PHYSICAL HAZARD:		**0**
PERSONAL PROTECTION:		

NFPA® 704 CODES



Approximate HMIS and NFPA Risk Ratings Legend:
0 (Low or none); 1 (Slight); 2 (Moderate); 3 (Serious); 4 (Severe)

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CAA (Clean Air Act, USA)

This product does not contain any class 1 ozone depleting substances.

This product does not contain any class 2 ozone depleting substances.

This product does not contain substances that are listed as hazardous air pollutants.

EPCRA (Emergency Planning and Right to Know Act, USA, 40 CFR 372.45)

This product does not contain substances which are subject to the reporting requirements of section 313 Title III of the SARA of 1986 and 40 CFR part 372.

TSCA (Toxic Substances Control Act of 1976, USA)

All substances are TSCA listed.

California Proposition 65 (Chemicals known to cause cancer or reproductive toxicity, USA).

This product does not contain any substances on the California Proposition 65 list.

Europe

RoHS (Restriction of Hazardous Substances Directive)

This product does not contain any lead, cadmium, mercury, hexavalent chromium, PBB's, PBDE's, DEHP, BBP, DBP, or DIBP and complies with European RoHS regulations.

WEEE (Waste Electrical and Electronic Equipment Directive)

This product is not a piece of electrical or electronics equipment, and is therefore not governed by this regulation.

Section 16: Other Information

SDS Prepared by	MG Chemical's Regulatory Department
Date of Review	08 December 2020
Supersedes	05 March 2020
Reason for Changes:	Update section 8 to include addition warnings for isocynate.

Reference

1) ACGIH *2017 TLVs and BEIs: Based on the documentation of the threshold limit values for chemical substances and physical agents & biological exposure indices*, American Conference of Governmental of Industrial Hygienist Cincinnati, OH (2017).

2) All toxicological data were checked against the RTECS (Registry of Toxic Effects of Chemical Substances®)

Abbreviations

ACGIH	American Conference of Governmental Industrial Hygienists (USA)
EC50	Half maximal effective concentration
EL50	Half maximal effective loading
NOELR	No observable effect loading ratio
NTP	National Toxicology Program
GHS	Globally Harmonized System of Classification of Labeling of Chemicals
HMIRC	Hazardous Materials Information Review Commision
IARC	International Agency for Research on Cancer
LC50	Lethal Concentration 50%
LCLo	Lowest published lethal concentration
LD50	Lethal Dose 50%
OEL	Occupational Exposure Limit
PEL	Permissible Exposure Limit
SDS	Safety Data Sheet
STEL	Short-Term Exposure Limit
TCLo	Lowest published toxic concentration
TWA	Time Weighted Average
VOC	Volatile Organic Content

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4200UV

Technical Queries

Contact us regarding any questions, improvement suggestions, or problems with this product. Application notes, instructions, and FAQs are located at www.mgchemicals.com.

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